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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/397,952 09/17/99 AHMAD

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EXAMINER

RAD, S

ART UNIT

PAPER NUMBER

2814
DATE MAILED:

01/18/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/397,952

Applicant(s)

AHMAD, AFTAB

Examiner

Steven H. Rao

Art Unit

2814

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 03 November 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-15 and 23-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-15 and 23-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

Response to Amendment

Applicants' amendment filed November 03, 2000 has been entered. Therefore claims 1 and 15 as amended by the amendment and claims 2-14 and 23-28 as originally filed are currently pending in the application.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-15 and 23-28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim s 1-8 of U.S. Patent No. 5,405,791 ('791) . Although the conflicting claims are not identical, they are not patentably distinct from each other because although the steps recited in claims (1,etc. of the '791 patent are not performed in the same order as currently recited, the current claims use the terminology " comprising" which encompasses the steps being carried out in a different order.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 and 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahmad et al. (U.S. Patent no. 5,405,791, herein after Ahmad) as previously applied and further in view of Wu et al. (U.S. Patent No. 5,837,585 herein after Wu).

With respect to claims 1 and 15 Ahmad describes a method of forming a gate structure on a semiconductor substrate including :

All the steps previously stated in the Office Action of 8/02/00 (Paper No. 4).

Further more , the amended recitation of forming an insulator element region on the substrate and forming a sidewall spacer is taught at least in figs. 6 and 7 and col. 4 lines 21-50 of Ahmad . Herein Ahmad teaches the steps of implanting Arsenic or Boron and then forming a TEOS oxide layer 71 and forming spacers (# 81, fig. 8).

Ahmad does not specifically teach implanting Nitrogen Atoms.

However, Wu in Fig. 2, etc. and 3 lines 23-50 teaches implanting a nitrogen into the silicon oxide dielectric layer to form an oxide layer with very high electron injection efficiency and a very large charge-to- breakdown voltage.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute Ahmad's Arsenic with Wu's Nitrogen in Ahmad's process to form an oxide layer with very high electron injection efficiency and a very large charge-to-breakdown voltage. (Wu col. 1 lines 40-42).

Independent claims 13 and 23 were alleged to be allowable because Ahmad does not teach implanting or doping the substrate with nitrogen or any other "insulator element".

As shown above Ahmad teaches implanting Arsenic and Boron and Wu teaches implanting Nitrogen.

Therefore Claims 13 and 23 are rejected over Ahmad and Wu.

Dependent claims 2-12, 14 and 24-28 were said to be allowable because they depend from allegedly allowable independent claims namely 1, 13, 15, and 23.

However as shown above the independent claims 1, 13, 15 and 23 are not allowable therefore claims 2-12, 14 and 24-28 are also rejected for the reasons set out in the previous office action (mentioned above) and further in view of the above discussion under claims 1, 13, 15 and 23.

Response to Arguments

Applicant's arguments with respect to claims 1-15 and 23-28 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is 703-306-5945. The examiner can normally be reached on M-F, 8.00 to 5.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703- 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703- 308-0956.

SA
01/03/2009


OLIK CHAUDHURI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800